

REMARKS

In accordance with the foregoing, no claims have been amended. No new matter is being added.

Favorable reconsideration of this application, in light of the following discussion, is respectfully requested.

Claims 1-32 are pending.

I. Request for Withdrawal of Finality

Applicants respectfully request a withdrawal of finality for the outstanding Office Action. Applicants respectfully note that at least the rejection against independent claims 9, 12, and 14-17 are improper for failing to establish a prima facie 35 U.S.C. §103 rejection. As stated in 35 U.S.C. § 103, the prima facie case of obviousness must both set forth a modification of a reference or references based on evidenced motivation and properly detail that each and every claimed feature is disclosed by the same modified reference or references. Applicants submit that in the rejections against claims 9, 12, and 14-17, features of these claims were omitted within the analysis set forth in the rejections, and therefore, that the prima facie case against these claims was never established, therefore resulting in an incomplete and improper rejection.

Applicants request that a proper rejection is set forth against claims 9, 12, and 14-17 in a next Office Action, and further, that comments regarding the claim 9 distinguishing over the cited art, set forth in pages 16-17 of the Amendment filed April 24, 2008, be addressed. Applicants respectfully note that such remarks were not addressed in the outstanding Office Action's Response to Arguments section.

As noted in at least M.P.E.P. § 707.07(f), the Examiner is required to answer and address all traversals. This requirement is in addition to any repetition of a previously held position and is required to allow the applicant a chance to review the Examiner's position as to these arguments and to clarify the record for appeal.

Additionally and as further noted in M.P.E.P. § 707.07(f), a failure of the Examiner to address the applicant's traversals can be deemed a failure to rebut these arguments so as to admit that the arguments have overcome the rejection. At the very least, the failure to address the applicant's traversals would render the Examiner's decision to again reject the claims arbitrary and capricious and invalid under the Administrative Procedures Act, 5 U.S.C. § 706, the

standard under which such rejections are reviewed in view of Dickinson v. Zurko, 527 U.S. 150, 50 USPQ2d 1930 (1999).

As such, in addition to the improper rejections, since the Examiner has not addressed the Applicants' traversals presented in the Amendment of April 24, 2008, it is respectfully requested that the Examiner withdraw the Final Office Action and issue a new Office Action addressing the Amendment of April 24, 2008.

II. Rejection under 35 U.S.C. § 103

Claims 1-6, 8, and 18-20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U. S. Patent No. 5,765,200 to McIlvain et al. (McIlvain) in view of U.S. Patent App. Pub. No. 2005/0244138 to O'Connor et al. (O'Connor). This rejection is respectfully traversed.

McIlvain is directed towards addressing a problem in conventional external disk storage systems wherein host processors control the position on the disk to be written to or read from. See McIlvain, col.1, lines 15-23. As discussed by McIlvain, this conventional configuration can cause problems with multiple host processors together accessing a shared data set. See McIlvain, col. 1, lines 30-35. McIlvain discusses that because each host is separately responsible for determining the location of the next record to write on disk, there is no simple way for multiple hosts to coordinate their log writes to create a single, sequential stream of log data. See McIlvain, col. 1, lines 35-40. To solve this problem, McIlvain discusses a logical positioning mechanism which shifts the logical positioning responsibility from the host processors to the storage controller. See McIlvain, col. 2, lines 32-34. McIlvain is entirely silent regarding any time-delaying functionality.

O'Connor is directed to solving a problem with recording and playing back video streams wherein due to the nature of analog media, once a VCR has started recording, it is not possible to play back the portion of the video stream that has already been recorded until the recording session is terminated. See O'Connor, Abstract. To address this problem, O'Connor discusses providing a time-shifted video stream as retrieving a portion of the video stream from the random access storage unit while the recording of the incoming video stream continues, wherein the retrieved portion of the video stream may be time-shifted from the incoming video stream by a time delay. See, O'Connor para. [0029]. O'Connor further discusses that a buffer is used to provide time-shifted video from a hard drive. See, O'Connor in para. [0032].

The Background of the Invention section of the present Application (herein referred to as Background) discusses that the management of a hard disk area in the form of a circular buffer

in a conventional broadcast receiving system for time-delayed viewing incurs access time delay of a head since video streams are successively arranged. The Background further discusses that consequently, two separate areas for time-delayed viewing of one channel and recording/reproduction of another channel should be alternately accessed when time-delayed viewing is implemented simultaneously with recording/reproduction. To overcome the access time delay problem of the conventional broadcast receiving system, the present Application discusses that when a time-delayed viewing mode is selected, free blocks are sequentially assigned as discontinuous circular buffer blocks in a disk recording area, and video streams for time-delayed viewing are recorded in the assigned circular buffer blocks.

Claim 1 at least recites:

A video stream processing method in a broadcast receiving system for time-delayed viewing, which includes disks having control information required for recording an input signal and reproducing recorded information recorded and a drive for driving the disks, the video stream processing method comprising:

sequentially assigning free blocks as discontinuous circular buffer blocks in a disk recording area, based on the control information when a time-delayed viewing mode is selected; and

recording video streams for time-delayed viewing in the assigned circular buffer blocks.

The Office Action appears to be relying upon McIlvain as discussing a video stream processing method in a broadcast receiving system for time-delayed viewing; however, as discussed above, McIlvain is entirely silent regarding any video steam processing or time-delaying, as McIlvain is merely directed towards shifting logical positioning responsibility from the host processors to the storage controller.

Further, the portions of McIlvain relied upon by the Office Action, FIG. 2, and col. 5, lines 20-52, fail to discuss or suggest anything regarding discontinuous circular buffer blocks in a disk recording area, or even circular buffers. Here, McIlvain merely discusses that data sets in a storage device include a plurality of logical positions. FIG. 2 of McIlvain, merely depicts a storage device, shown as a typical flowchart symbol for a database (cylinder). Applicants submit that one of ordinary skill in the art would not interpret a mere database symbol shown in FIG. 2, and the description in col. 5, lines 20-52 of McIlvain to discuss or suggest the claimed "sequentially assigning free blocks as discontinuous circular buffer blocks in a disk recording area."

The Office Action further appears to rely upon O'Connor as discussing assigning free blocks in the circular buffer based on control information when a time-delayed viewing mode is selected. Applicants respectfully disagree and further submit that O'Connor fails to cure the deficiencies described above regarding McIlvain.

As briefly described above, O'Connor is related to the recording and playing back of a video stream. In O'Connor, the video stream is stored in the storage unit 108, shown in FIG. 1. See, O'Connor para. [0025]. O'Connor further describes that a buffer unit may be used as temporary storage for providing larger sequential blocks of video data to the storage unit 108. Id.

Paras. [0036]-[0037], of O'Connor, relied upon in the Office Action as describing assigning free blocks in the circular buffer, merely describes that the random access storage unit may act as a temporary buffer for recording the latest portion of an incoming video stream and that as newer portions of the video stream are received, they overwrite the older portions of the video stream saved in the random access storage unit. O'Connor continues here by further stating that in this manner, the temporary buffering of the video stream acts as a circular buffer.

Applicants submit that the random access storage unit of O'Connor acting as a circular buffer still does not discuss or suggest “sequentially assigning free blocks as discontinuous circular buffer blocks in a disk recording area,” as claimed. In contrast, O'Connor is entirely silent regarding any assigning of free blocks, and merely states that newer portions of the video stream overwrite the older portions of the video stream.

The Office Action also cites to FIG. 4 of O'Connor as discussing “placing information in discontinuous circular buffer,” however, Applicants respectfully submit that “placing information” cannot be equated to “assigning free blocks,” as claimed.

Further, FIG. 4, as described in paras. [0036] of O'Connor, discusses storage of the video stream, whereas para. [0037] discusses a temporary buffer – two different types of storage.

FIG. 4, appears to be directly solely to the storage of the video stream in O'Connor, which includes the processor 130 keeping track of the file and offset into the file of the data being played back, as well as the file and offset into the file of the data being recorded. The offsets and files are shown in FIG. 4 of O'Connor.

In contrast, the temporary buffer of O'Connor, discussed in para. [0037], has the processor maintaining pointers to the beginning and ending points of the temporary buffer. The

pointers discussed in O'Connor are not shown in FIG. 4. Therefore, Applicants submit that the interpretation set forth by the Office Action of the data storage having a discontinuous format, cannot be equated to the claimed "discontinuous circular buffer blocks." As discussed above, para. [0037] of O'Connor is the only portion relied upon that discusses a temporary buffer, and here, O'Connor is silent regarding "assigning free blocks," and "as discontinuous circular buffer blocks," as claimed.

Further, the Office Action appears to rely upon paras. [0072]-[0077] of O'Connor as describing assigning free blocks based on control information, however, here, O'Connor merely describes storing digitized video in a memory buffer, and is silent regarding any control information or how it pertains to a disk recording area. Still further, Applicants again submit that storing digitized video cannot be equates with "assigning free blocks," as claimed.

In the Response to Arguments section, the Office Action additionally newly cites to paras. [0062]-[0067] of O'Connor, as describing assigning free blocks as discontinuous circular buffer blocks in a disk recording area, based on the control information when a time-delayed viewing mode is selected. However, the viewing modes discussed in paras. [0062]-[0067] of O'Connor, discuss a zoom mode and a fast forward mode but fail to discuss a time-delayed viewing mode, and further none of the modes described here in O'Connor discuss any control information.

Therefore, Applicants submit that neither McIlvain nor O'Connor, whether considered alone or in modification, describe or suggest the features of claim 1.

Additionally, Applicants submit that the prima facie case of obviousness to modify McIlvain with the discussion of O'Connor has not been established in the Office Action wherein merely a conclusion of obviousness is set forth, without providing an actual reason to modify McIlvain with O'Connor. In the Response to Arguments section, the Office Action states that obviousness can be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the reference themselves or in the knowledge generally available to one of ordinary skill in the art. That is, the reference itself has a teaching, suggestion or motivation to combine or modify the teachings of the prior art. Merely describing what a reference teaches fails to provide a motivation to combine the teaching of that reference with another.

Applicants respectfully submit that the statement provided in the Response to Arguments section regarding what O'Connor teaches, is still silent regarding a motivation to combine the teachings of McIlvain with O'Connor, and thus fails to provide a motivation to combine the teaching of that reference with another.

Further, Applicants submit that there would be no reason to modify the teachings of McIlvain with O'Connor at least because nowhere in McIlvain is described a video stream processing system.

Therefore, Applicants request that the *prima facie* case of obviousness has not properly been set forth, and accordingly request a new Office Action setting forth a proper rejection.

Further, in view of the above remarks, Applicants submit that claim 1, and claims 2-6 and 8, which depend therefrom and recite patentably distinct features of their own, patentably distinguish over the cited art.

Claim 18 at least recites:

A recording medium in a broadcast receiving system having a hard disk drive, the recording medium comprising:

a video stream storing area which records video streams, wherein the video stream storing area comprises video stream blocks which are arranged discontinuously; and

a control information area which stores control information relating to the video stream storing area,

wherein the video stream blocks are arranged discontinuously based on the control information stored in the control information area.

Therefore, for at least the reasons set forth above, claim 18, and claims 19-20 which depend therefrom and recite patentably distinct features of their own, patentably distinguish over the cited art.

Favorable reconsideration and a withdrawal of the rejection against claims 1-6, 8, and 18-20 are respectfully requested.

Claims 21, 23-26 and 28-32 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U. S. Patent No. 6,009,231 to Aoki et al. (Aoki) in view of U.S. Patent No. 6,233,389 to Barton et al. (Barton), in further view of O'Connor. This rejection is respectfully traversed.

The Office Action, in the Response to Arguments section, states that O'Connor is also relied upon to meet the claimed “sequentially assigns free blocks as discontinuous circular buffer blocks on the recording medium.” Applicants therefore, submit that as described above regarding claim 1, O'Connor also fails to describe or suggest “sequentially assigns free blocks as discontinuous circular buffer blocks on the recording medium.”

Further, Applicants submit that O'Connor also fails to describe or suggest "assigns free blocks ... as circular buffer blocks based on the control information," as described above regarding claim 1.

Further, Applicants herein incorporate by reference the traversal of Aoki and Barton as submitted in the Amendment filed April 24, 2008, and respectfully request such arguments be addressed.

Accordingly, Applicants submit that none of Aoki, Barton, nor O'Connor, whether considered alone or in combination, describe the features of claims 21. Therefore, claim 21 claims 23-26, and 28, which depend therefrom and recite patentably distinct features of their own, patentably distinguish over the cited art.

Claim 32 at least recites "assigns free blocks nearest to the recorded or reproduced free blocks as circular buffer blocks based on the control information," therefore, for at least the reasons set forth above regarding claim 1, Applicants submit that claim 32 patentably distinguishes over the cited art.

Favorable reconsideration and a withdrawal of the rejection against claims 21, 23-26, and 28-32, are respectfully requested.

Claims 7, and 9-17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over McIlvain in view of O'Connor and in further view of Aoki. This rejection is respectfully traversed.

Applicants respectfully submit that Aoki fails to cure the above described deficiencies of McIlvain and O'Connor as applied above regarding claim 1 from which claim 7 depends. Therefore for at least the reasons set forth above regarding claim 1, Applicants submit that claim 7 patentably distinguishes over the cited art.

Claim 9 at least recites "A video stream processing method in a broadcast receiving system for time-delayed viewing," and "sequentially assigning free blocks as discontinuous circular buffer blocks ... based on the control information when a time-delayed viewing mode is selected." Applicants submit that as Aoki fails to cure the deficiencies of McIlvain and O'Connor, for at least the reasons set forth above regarding claim 1, claim 9, and claims 10-11 which depend therefrom and recite patentably distinct features of their own, patentably distinguish over the cited art.

Claim 15 at least recites "A video stream processing method in a broadcast receiving system for time-delayed viewing," and "assigning free blocks nearest to the recorded free blocks as circular buffer blocks." Applicants submit that as Aoki fails to cure the deficiencies of McIlvain

and O'Connor, for at least the reasons set forth above regarding claim 1, claim 15 patentably distinguishes over the cited art.

Further, claim 9 at least recites "assigning free blocks nearest to the recorded free blocks as the circular buffer blocks" and claim 15 at least recites "assigning free blocks nearest to the recorded free blocks as circular buffer blocks."

The Office Action on page 12, under the rejection for claim 9 states that "McIlvain et al in view of Barton et al discloses a video stream processing method, as previously discussed in claim 1," thereby appearing to reject the above described features of claims 9 and 15 under the same analysis as applied to claim 1. However, claim 1 does not recite "assigning free blocks nearest to the recorded free blocks as circular buffer blocks." Applicants submit that accordingly, claims 9 and 15, and claims 10-11 which depend from claim 9 and recite patentably distinct features of their own, patentably distinguish over the cited art.

Further, Applicants request that a proper rejection specifically providing a citation to the cited art wherein the claimed feature "assigning free blocks nearest to the recorded free blocks as circular buffer blocks" is described or suggested, be provided in a next Office Action. Additionally, Applicants request that the next Office Action address Applicant's previous arguments set forth on pages 16-17 of the response filed April 24, 2008.

Claim 16 at least recites "assigning free blocks nearest to the reproduced free blocks." On page 13, the Office Action states "In regard to claim 16, the claim limitations have been discussed in claim 9." However, Applicants submit that claim 9 does not recite "reproduced free blocks," and further that as described above regarding claim 9, the Office Action sets forth an improper rejection against claim 9 for failure to consider all of the features of claim 9 in its rejection. Therefore, Applicants submit the rejection against claim 16 is also improper, and further that the cited art fails to describe or suggest the claimed "assigning free blocks nearest to the reproduced free blocks."

Claim 17 at least recites "assigning free blocks nearest to the recorded or reproduced free blocks as circular buffer blocks." On page 13, the Office Action states "In regard to claim 17, the claim limitations have been discussed in claim 9." However, Applicants submit that claim 9 does not recite "reproduced free blocks," and further that as described above regarding claim 9, the Office Action sets forth an improper rejection against claim 9 for failure to consider all of the features of claim 9 in its rejection. Therefore, Applicants submit the rejection against claim

16 is also improper, and further that the cited art fails to describe or suggest the claimed “assigning free blocks nearest to the recorded or reproduced free blocks.”

Claim 12 at least recites “assigning free blocks nearest to the reproduced free blocks as the circular buffer blocks … when a reproduction mode is selected together with the time-delayed viewing mode.” On page 13, the Office Action states “In regard to claim 12, the claim limitations have been discussed in claim 9.” However, Applicants submit that claim 9 does not recite “reproduced free blocks,” and further that as described above regarding claim 9, the Office Action sets forth an improper rejection against claim 9 for failure to consider all of the features of claim 9 in its rejection.

Further, Applicants submit that a citation within the cited art regarding the claimed “when a reproduction mode is selected together with the time-delayed viewing mode,” has not been provided in the rejection against claim 12, as the rejection against claim 9 was merely applied against claim 12. As claim 9 does not recite “a reproduction mode is selected together with the time-delayed viewing mode,” Applicants submit that the rejection against claim 9 cannot equally be made against claim 12, and accordingly, that the rejection against claim 12 is improper. Therefore, Applicants submit the rejection against claim 12 is improper, and further that claim 12, and claim 13 which depends therefrom and recites patentably distinct features of its own, patentably distinguish over the cited art.

Claim 14 at least recites “assigning free blocks nearest to the reproduced free blocks as the circular buffer blocks … when a reproduction mode is selected together with the time-delayed viewing mode.” On page 13, the Office Action states “In regard to claim 14, the claim limitations have been discussed in claim 9.” However, Applicants submit that claim 9 does not recite “reproduced free blocks,” and further that as described above regarding claim 9, the Office Action sets forth an improper rejection against claim 9 for failure to consider all of the features of claim 9 in its rejection.

Further, Applicants submit that a citation within the cited art regarding the claimed “when a reproduction mode is selected together with the time-delayed viewing mode,” has not been provided in the rejection against claim 14, as the rejection against claim 9 was merely applied against claim 14. As claim 9 does not recite “a reproduction mode is selected together with the time-delayed viewing mode,” Applicants submit that the rejection against claim 9 cannot equally be made against claim 14, and accordingly, that the rejection against claim 14 is improper. Therefore, Applicants submit the rejection against claim 14 is improper, and further that claim 14 patentably distinguishes over the cited art.

Favorable reconsideration and a withdrawal of the rejection against claims 7, and 9-17, are respectfully requested.

Claims 22 and 27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Aoki in view of Barton in further view of U. S. Patent 5,884,284 to Peters et al. (Peters). This rejection is respectfully traversed.

Applicants respectfully submit that Peters fails to cure the above described deficiencies of Aoki and Barton as applied above regarding claim 21 from which claims 22 and 27 respectively depend. Therefore, for at least the reasons set forth above regarding claim 21, Applicants submit that claims 22 and 27 patentably distinguish over the cited art.

Favorable reconsideration and a withdrawal of the rejection against claims 22 and 27, are respectfully requested.

III. Conclusion

In accordance with the foregoing, claims 1-32 are pending and under consideration.

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this Amendment, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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